

Artificial Intelligence Generic Use Cases



Image, Video & Sound Processing

CVI Computer Vision
Object Detection

Capturing information from images and videos is called computer vision. In doing so, individual objects and their properties can be recognized, but complex situations and relationships between objects can also be determined.

OBR Object Recognition
Object Detection

In object recognition, objects are classified or recognized in images or videos.

OCR Optical Character Recognition

Optical character recognition is used to transform images from printed or handwritten text into machine-processable text.

FAR Facial Recognition
Facial Detection

Face Recognition finds faces in pictures or videos and may, if possible, assign them to known persons to identify or authenticate them.

GER Gesture Recognition

Gesture recognition interprets human gestures through body movements. This mostly interprets hand movements or changes in the facial expressions.

SKR Sketch Recognition

Sketch recognition categorizes hand-drawn diagrams or sketches into terms.

ACR Artificial Creativity

Artificial creativity aims for the simulation or replication of human creativity. It may also help to understand or enhance human creativity without being creative itself.

DMI Data Mining
Knowledge discovery

Data mining is the recognition of patterns and relationships in large, mostly unstructured data sets.

KRE Knowledge Representation
Knowledge reasoning

Knowledge Representation prepares and presents information in a form that can be used by humans or computers to solve further tasks based it.

Text Processing

TMI Text Mining
Machine reading

Text mining is used to determine structured information and relationships from a text or text snippets.

SUM Automated Summarization

The automatic summary determines the essential information of a text to put it in a condensed and concentrated form.

OMI Opinion Mining
Sentiment analysis

Opinion recognition, also known as sentiment analysis, is the interpretation of gestures or language relating to emotions or opinions expressed directly or indirectly with it.

IFI Information Filtering
Recommender system

Information filtering removes unwanted or useless information from the information available to identify and organize the relevant information to avoid information overload.

COF Collaborative Filtering

Collaborative filtering is based on identifying personal preferences based on the entire user group. For this purpose, a peer group is determined and from their historical actions the individual preferences are derived.

CBF Content Based Filtering
Content Discovery

Content-based filtering relates the properties of the elements to be filtered to the properties of the current context or to the profile of the person seeking it.

APL Automated Planning
Automated scheduling

Automated planning is used to find action sequences to solve complex problems. To determine the solution, it is usually necessary to operate in multi-dimensional space of information.

SPL Strategic Planning

Strategic planning describes the process of defining directional decisions or goals based on assumptions about future developments. For this, it uses automated planning, problem solving and competition planning.

CPL Competition Planning
Game Theory

Competition planning deals with the planning of options for action, taking into account other competing or cooperating intelligences that influence each other in the same context. In the field of parlor games this is also called "game theory".

Filtering

Planning

Speech Processing

Automated Control

NLP Natural Language Processing

The processing of natural language allows a computer to interact with humans naturally speaking. This includes understanding as well as generating written or spoken language.

SRE Speech Recognition
Voice dictation, Speech To Text

Speech recognition converts spoken language into machine-processable text. For this purpose, techniques from computational linguistics are typically applied.

NLU Natural Language Understanding

Natural language understanding describes the ability to process written or spoken language and to understand its content or intent.

NLG Natural Language Generation
Text To Speech

Natural language generation describes the conversion of data, typically text, into human language or speech.

VCO Voice Control

Voice control is used to identify the intention of a voice command in order to control an actor.

AAG Autonomous Agent
Intelligent agent

An autonomous agent is an autonomous entity. It captures its surroundings with sensors and compares the captured information with the tasks assigned to it, in order to make decisions and act independently using its actors.

ROB Robotics

In Robotics, physical robots are automatically controlled, taking into account the tasks to be performed and the perception of the environment. It can be both industrial and humanoid robots.

NCO Nonlinear Control
Feedback Control System

Nonlinear control addresses control issues with a complex interdependence between input and output. Typically, the input is adjusted from experience using a feedback loop from the output.

RPA Robotic Process Automation

Robotic Process automation is the process of replace or simulating human interactions with a user interface by a software robot with the aim of partially or fully automating it.

Assistance

Basic Predictions

QUA Question Answering
Chatbot

Answering Questions uses natural language processing and sometimes problem solving to answer a person's questions in natural language.

PSO Problem Solving
Decision Making

Problem solving deals with answering questions or deriving decisions in complex multidimensional problem situations.

VAS Virtual Assistance
Virtual assistant, Intelligent personal assistant

A virtual assistant provides direct, situational assistance in everyday tasks of a person, taking into account individual needs and the current context.

ESI Expert Simulation
Expert System

An expert system recreates the experience and decision-making competence of a human expert.

ACO Auto-Completion
Form completion

Auto completion, or word completion, is a feature in which an application predicts the rest of a word a user is typing. A more advanced example might be the completion within a whole form with multiple fields.

ADI Automated Diagnosis
Predictive Maintenance

Automated diagnosis is used to determine whether the behavior of a system is correct. In the case of deviations the diagnosis should also determine which components are affected and which errors are likely to happen.

VPR Value Prediction

Value prediction techniques aim to predict the value of one or more dependent variables based on the values of one or more predictor variables. The predicted value is usually scalar and in most cases a real number.

CLA Classification
Clustering

A classification function assigns data items to discrete named groups. Unsupervised classification where the classes are neither labelled nor known beforehand is known as clustering.

ADT Anomaly Detection
Fraud Detection

Anomaly detection is used to identify situations or data points that differ from the common majority or the expected patterns.